

(a) transferring the nucleus of the differentiated cell or a cell obtained by culture thereof into an enucleated, metaphase II-arrested oocyte from the same species, wherein the differentiated cell or cell obtained by culture thereof is a diploid cell in the G1 phase of the cell cycle at the time of transfer;

(b) activating the oocyte; and

(c) incubating the activated oocyte such that the embryo clone develops, wherein the embryo clone is capable of developing to term.

58. (NEW) The non-human, mammalian embryo clone of claim 57, wherein the non-human, non-embryonic mammal is selected from the group consisting of cattle, sheep, pigs, goats, mice, and rabbits.

59. (NEW) The non-human, mammalian embryo clone of claim 57, wherein the differentiated cell or cell obtained by culture thereof is cultured *in vitro*.

60. (NEW) The non-human, mammalian embryo clone of claim 58, wherein the differentiated cell or cell obtained by culture thereof is abstracted *ex vivo*.

61. (NEW) A non-human mammalian clone of a pre-existing, non-embryonic mammal from which a differentiated cell has been taken, wherein the clone has the same set of chromosomes as the pre-existing mammal,

wherein the clone is produced by a process comprising:

(a) transferring the nucleus of the differentiated cell or a cell obtained by culture thereof into an enucleated, metaphase II-arrested oocyte from the same species, wherein the differentiated cell or cell obtained by culture thereof is a diploid cell in the G1 phase of the cell cycle at the time of transfer;

- (b) activating the oocyte; and
- (c) incubating the activated oocyte such that an embryo develops;
- (d) transferring the embryo to a female of the same species; and
- (e) developing the embryo into the non-human mammalian clone.

62. (NEW) The non-human mammalian clone of claim 61, wherein the non-human, non-embryonic mammal is selected from the group consisting of cattle, sheep, pigs, goats, mice, and rabbits.

63. (NEW) The non-human mammalian clone of claim 61, wherein the differentiated cell or cell obtained by culture thereof is cultured *in vitro*.

64. (NEW) The non-human mammalian clone of claim 61, wherein the differentiated cell or cell obtained by culture thereof is abstracted *ex vivo*.

65. (NEW) A non-human, mammalian embryo clone of a pre-existing, non-embryonic mammal from which a differentiated cell has been taken, wherein the embryo clone is produced by a process comprising:

- (a) obtaining the differentiated cell from the pre-existing, non-embryonic mammal;
- (b) genetically modifying the differentiated cell;
- (c) transferring the nucleus of the genetically modified cell into an enucleated, metaphase II-arrested oocyte from the same species, wherein the differentiated cell or cell obtained by culture thereof is a diploid cell in the G1 phase of the cell cycle at the time of transfer;
- (d) activating the oocyte; and
- (e) incubating the activated oocyte such that the embryo clone develops,

wherein the embryo clone is capable of developing to term.

66. (NEW) The non-human, mammalian embryo clone of claim 65, wherein the non-human, non-embryonic mammal is selected from the group consisting of cattle, sheep, pigs, goats, mice, and rabbits.

67. (NEW) A non-human mammalian clone of a pre-existing, non-embryonic mammal from which a differentiated cell has been taken,

wherein the clone is produced by a process comprising:

(a) obtaining the differentiated cell from the pre-existing, non-embryonic mammal;

(b) genetically modifying the differentiated cell;

(c) transferring the nucleus of the genetically modified cell into an enucleated, metaphase II-arrested oocyte from the same species,

wherein the differentiated cell or cell obtained by culture thereof is a diploid cell in the G1 phase of the cell cycle at the time of transfer;

(d) activating the oocyte; and

(e) incubating the activated oocyte such that an embryo develops;

(f) transferring the embryo to a female of the same species; and

(g) developing the embryo into the non-human mammalian clone.

68. (NEW) The non-human mammalian clone of claim 67, wherein the non-human, non-embryonic mammal is selected from the group consisting of cattle, sheep, pigs, goats, mice, and rabbits.

69. (NEW) A non-human, non-embryonic mammal from which a differentiated donor cell has been taken and a clone thereof,

wherein the clone has the same set of chromosomes as the non-human mammal and wherein the clone is made by a process comprising:

- (a) transferring the nucleus of the differentiated cell or a cell obtained by culture thereof into an enucleated, metaphase II-arrested oocyte of the same species, wherein the differentiated cell or cell obtained by culture thereof is a diploid cell in the G1 phase of the cell cycle at the time of transfer;
- (b) activating the oocyte; and
- (c) incubating the activated oocyte such that an embryo develops;
- (d) transferring the embryo to a female of the same species; and
- (e) developing the embryo to term into a clone that has the same set of chromosomes as the non-human mammal.

70. (NEW) A cell culture comprising non-human mammalian differentiated cells and a non-human mammalian clone produced therefrom, wherein the clone has the same set of chromosomes as cells in the cell culture, and wherein the clone is made by a process comprising:

- (a) transferring the nucleus of a differentiated cell from the cell culture into an enucleated, metaphase II-arrested oocyte of the same species, wherein the differentiated cell is a diploid cell in the G1 phase of the cell cycle at the time of transfer;
- (b) activating the oocyte; and
- (c) incubating the activated oocyte such that an embryo develops;
- (d) transferring the embryo to a female of the same species; and

(e) developing the embryo to term into a clone that has the same set of chromosomes as cells in the cell culture.

71. (NEW) A reconstituted non-human mammalian oocyte comprising the nucleus of a differentiated non-human mammalian diploid donor cell from the same species in the G1 phase of the cell cycle,

wherein the reconstituted non-human mammalian oocyte is capable of developing to term. --

REMARKS

Reconsideration of this application is respectfully requested.

Applicants have canceled claims 45-56. New claims 57-68 are derived from canceled claims 45-56 and emphasize that the claimed embryos and mammals are clones. New claims 69-71 are addressed specifically below. No new matter is introduced through this amendment.

Rejections under 35 U.S.C. § 101

Claims 45-56 were provisionally rejected under 35 U.S.C. § 101 as allegedly claiming the same invention as that of claims 56-91 of co-pending Application No. 09/225,233.

Applicants traverse the rejection. Applicants are not claiming the "same invention." In this context, a good test for "same invention," is whether one of the claims could be literally infringed without literally infringing the other. If it could be, the claims do not define identically the same invention. *In re Vogel*, 164 U.S.P.Q. 619, 622 (C.C.P.A. 1970). When this test is applied to applicants' claims, it is evident that applicants are not claiming the same invention as that of claims 56-91 of copending